

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A labeled proteinoid microsphere comprising a mixture of amino acids that are condensed and a label comprising a fluorophore, a chemiluminescent molecule, a radioisotope, a paramagnetic ion, ~~a metal~~, or an enzyme; wherein the label is linked to the proteinoid microsphere.
2. (Currently Amended) A labeled proteinoid microsphere comprising a mixture of amino acids that are condensed and a label, ~~The labeled proteinoid microsphere of claim 1~~ wherein the label is barium sulfate, iocetamic acid, iopanoic acid, ipodate calcium, diatrizoate sodium, diatrizoate meglumine, metrizamide, tyropanoate sodium, fluorine-18, carbon-11, iodine-123, technitium-99m, iodine-131, indium-111, fluorine, gadolinium, fluorescein, isothiocyalate, rhodamine, pacific blue, phycoerythrin, phycocyanin, allophycocyanin, ophthaldehyde, fluorescamine, luminal, isoluminal, luciferin, luciferase or aequorin.
3. (Original) The labeled proteinoid microsphere of claim 1 wherein the proteinoid microsphere is formed by thermal condensation of a mixture of amino acids in the presence of a crosslinking agent.
4. (Original) The labeled proteinoid microsphere of claim 3 wherein the crosslinking agent is carbodiimide, glutaraldehyde, N-(m-maleimidobenzoyloxy)-succinimide, a bifunctional sulphydral reagent.
5. (Previously Presented) The labeled proteinoid microsphere of claim 1 that is synthesized for signal amplification or diagnostic imaging.
6. (Original) The labeled proteinoid microsphere of claim 1 wherein the mixture of amino acids are thermally condensed.

7. (Currently Amended) A labeled proteinoid microsphere that is capable of binding to a specific target comprising a proteinoid microsphere linked to a label and a selective binding moiety that can bind to a specific target, wherein the label comprises a fluorophore, a chemiluminescent molecule, a radioisotope, a paramagnetic ion, or an enzyme.

8. (Cancelled)

9. (Currently Amended) A labeled proteinoid microsphere that is capable of binding to a specific target comprising a proteinoid microsphere linked to a label and a selective binding moiety that can bind to a specific target, ~~The labeled proteinoid microsphere of claim 6~~ wherein the label is barium sulfate, iocetamic acid, iopanoic acid, ipodate calcium, diatrizoate sodium, diatrizoate meglumine, metrizamide, tyropanoate sodium, fluorine-18, carbon-11, iodine-123, technitium-99m, iodine-131, indium-111, fluorine, gadolinium, fluorescein, isothiocyalate, rhodamine, pacific blue, phycoerythrin, phycocyanin, allophycocyanin, ophthaldehyde, fluorescamine, luminal, isoluminal, luciferin, luciferase or aequorin.

10. (Currently Amended) The labeled proteinoid microsphere of claim 7 [[6]] wherein the proteinoid microsphere is formed by thermal condensation of a mixture of amino acids in the presence of a crosslinking agent.

11. (Currently Amended) The labeled proteinoid microsphere of claim 10 [[9]] wherein the crosslinking agent is carbodiimide, glutaraldehyde, N-(m-maleimidobenzoyloxy)-succinimide, a bifunctional sulfhydryl reagent.

12. (Currently Amended) The labeled proteinoid microsphere of claim 7 [[6]] wherein the selective binding moiety is an antibody, a ligand, a receptor, a peptide, a peptidyl analogue or a polypeptide.

13. (Currently Amended) The labeled proteinoid microsphere of claim 7 [[6]] that is labeled for use ~~used~~ in an immunoassay.

14. (Currently Amended) The labeled proteinoid microsphere of claim_13 [[12]] wherein the immunoassay is a radioimmunoassay, an ELISA, an immunofluorescence assay or a sandwich assay.

15. (Currently Amended) The labeled proteinoid microsphere of claim_7 [[6]] that is labeled for use ~~in~~used for diagnostic imaging or signal amplification.

16. (Currently Amended) The labeled proteinoid microsphere of claim_7 [[6]] wherein the signal amplification is at least about thirty-fold relative to an antibody preparation linked to the same label.

17. (Currently Amended) A labeled proteinoid microsphere that is capable of binding to a specific target comprising a proteinoid microsphere linked to a label and an antibody that can bind to a specific target, wherein the label comprises a fluorophore, a chemiluminescent molecule, a radioisotope, a paramagnetic ion, or an enzyme.

18. (Original) The labeled proteinoid microsphere of claim 17 wherein the proteinoid microsphere comprises a thermally-condensed mixture of amino acids comprising an acidic amino acid and a basic amino acid.

19. (Cancelled)

20. (Currently Amended) The labeled proteinoid microsphere of claim 18 [[17]] wherein the acidic amino acid is aspartic acid or glutamic acid or a mixture of both.

21. (Currently Amended) The labeled proteinoid microsphere of claim 18 [[17]] wherein the basic amino acid is arginine or lysine, or a mixture of both.

22. (Currently Amended) The labeled proteinoid microsphere of claim 18 ~~[[17]]~~ wherein the mixture of amino acids further comprises cysteine.